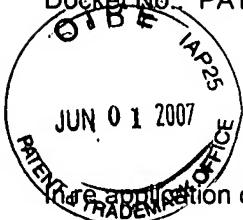


Docket No: PAT-1130-CC2



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent and Trademark Office  
Application of: Zheng  
Serial No.: ~~10/667,090~~  
10637097  
Filed: August 8, 2003  
Title: Collapsible Structures

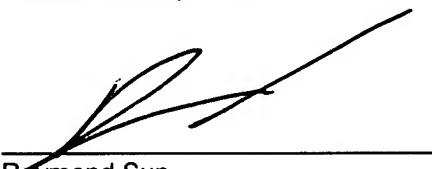
Mail Stop Appeal Brief - Patent  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF (37 CFR 41.37)**

In response to the Notice of Non-Compliant Appeal Brief mailed May 21, 2007, enclosed is an Appeal Brief containing a concise statement of each ground of rejection presented for review.

Respectfully submitted,

Date: 5-29-07

  
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**CERTIFICATE OF MAILING**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service as first class mail in an envelope to Addressee under 37 CFR 1.10, addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on date below:

Date: 5-29-07

By: Donna Dice  
Donna Dice



PAT-1130-CC2

**NOTICE OF APPEAL FROM THE EXAMINER TO  
THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of ) Art Unit: 3637  
YU ZHENG )  
Serial No.: 10/637,097 ) Examiner: Janet Wilkens  
Filing Date: August 8, 2003 )  
For: Collapsible Structures )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF UNDER 37 CFR §41.37**

Dear Sir:

This is an appeal from the rejections of:

1. claims 18, 20-23 and 28 under 35 U.S.C §103(a) as being unpatentable over USP 5,249,592 to Springer et al. ("Springer") in view of 5,411,046 to Wan ("Wan");
2. claims 18, 20-22 and 28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 9-12 of U.S. Patent No. 5,579,799; and
3. claims 18, 20-23 and 28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 5 of U.S. Patent No. 5,560,385.

For the reasons discussed below, Applicant requests reversal of the rejections, and allowance of the claims. The Notice of Appeal was dated October 24, 2006. Applicant is submitting herewith a petition for a one-month extension of time, thereby making this Appeal Brief due on January 24, 2007.



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REAL PARTY IN INTEREST

The real party in interest is Patent Category Corp., the assignee of record.

RELATED APPEALS AND INTERFERENCES

None

### STATUS OF THE CLAIMS

Claims 1-17, 19 and 24-27 have been canceled.

Claims 18, 20-23 and 28 are pending and set forth in attached Appendix A.

Claims 18, 20-23 and 28 are rejected under 35 U.S.C §103(a) as being unpatentable over USP 5,249,592 to Springer et al. ("Springer") in view of 5,411,046 to Wan ("Wan").

Claims 18, 20-23 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,604,537. **Applicant is willing to submit a terminal disclaimer at a later date to overcome this rejection.**

Claims 18, 20-22 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 10, 11, 13, 15, 17-19, 21, 23 and 24 of U.S. Patent No. 6,209,557. **Applicant is willing to submit a terminal disclaimer at a later date to overcome this rejection.**

Claims 18, 20-23 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 8 and 12 of U.S. Patent No. 5,778,915. **Applicant is willing to submit a terminal disclaimer at a later date to overcome this rejection.**

Claims 18, 20-22 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 9-12 of U.S. Patent No. 5,579,799.

Claims 18, 20-23 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 5 of U.S. Patent No. 5,560,385.

Claims 18, 20-23 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,851,439 in view of Wan. **Applicant is willing to submit a terminal disclaimer at a later date to overcome this rejection.**

STATUS OF AMENDMENTS

No amendments to any of the claims have been filed subsequent to the final rejection.

### SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 18 is the only independent claim, and the claimed invention is directed to the collapsible structure shown in FIGS. 1, 5A and 5B.

The collapsible structure has a deployed configuration and a collapsed configuration, and includes a side member 22b and a base member 22c. Each member includes a foldable frame member 32b, 32c that has a folded and an unfolded orientation, and a separate fabric material 34b, 34c covering at least a portion of its respective frame member when the respective frame member is in the unfolded orientation, with each frame member forming a plurality of concentric rings when the frame member is in the folded orientation (see FIG. 5E).

The side member 22b and the base member 22c are connected to each other adjacent the bottom side 27b of the side member 22b and the first side 23c of the base member 22c at an acute angle when the structure is in the deployed configuration. The side member 22b and the base member 22c are flat when the structure is in the deployed configuration with the base member 22c resting on a surface. See FIG. 1.

A first frame retaining sleeve 30b retains most of the length of the frame member 32b for the side member 22b, and a second frame retaining sleeve 30c retains most of the length of the frame member 32c for the base member 22c, with the frame members for the side member and the base member being individually retained in different frame retaining sleeves 30b, 30c.

### GROUNDΣ OF REJECTIONS TO BE REVIEWED ON APPEAL

Claims 18, 20-22 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 9-12 of U.S. Patent no. 55,579,799. Although the conflicting claims are not identical, the Examiner asserts that they are not patentably distinct from each other because both the instant invention and patent teach a pair of foldable panels attached at adjacent edges thereof via sleeves. Since the frames of the folding panels are themselves foldable it would be obvious to twist and/or fold them in a manner wherein concentric rings are formed. The Examiner also asserts that it would be obvious to add the fabric material onto the frame so that it and the frame form a flat structure, for aesthetic reasons, etc. and obvious to position the adjacent panels in various configurations, including at acute angles with respect to one another, depending on the structural shape desired.

Claims 18, 20-23 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 5 of U.S. Patent No. 5,560,385. Although the conflicting claims are not identical, the Examiner asserts that they are not patentably distinct from each other because both the instant invention and patent teach a pair of foldable panels attached at adjacent edges thereof via stitching and sleeves. Since the frames of the folding panels are themselves foldable it would be obvious to twist and/or fold them in a manner wherein concentric rings are formed. The Examiner also asserts that it would be obvious to add the fabric material onto the frame so that it and the frame form a flat structure, for

aesthetic reasons, etc. and obvious to position the adjacent panels in various configurations, including at acute angles with respect to one another, depending on the structural shape desired.

Claims 18, 20-23 and 28 are rejected under U.S.C. 103(a) as being unpatentable over Springer et al in view of Wan. According to the Examiner, Springer teaches a collapsible structure (Fig. 2) comprising: a flat side member (32) and a flat base member (34) hingedly attached via connectors (36). The members are foldable and include fabric there over. For claim 18, the Examiner acknowledges that Springer fails to teach that the hinge between the members is comprised of two sleeves and stitching and that each frame includes a separate fabric material there over. Wan teaches the use of sleeves and stitching (see Fig. 4) to hingedly attach collapsible frame members together; the frames each including separate fabric material (30) thereover. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the structure of Springer by using alternate hinge means between its frame members, i.e. using the sleeve/stitching members of Wan therein instead of the connectors presently used, since these hinge means are functionally equivalent and would work equally well between the members of Springer. Furthermore, if the material and sleeves of Wan are used with the foldable frames of Springer, the structure assembly as a whole would be simplified, using fewer separate parts to form the structure and the hinge would be more supportive, extending the entire length of the frames. Furthermore, because of the positioning of the members, the flexible hinge angle of Springer in view of Wan would be an acute angle.

## ARGUMENTS

Applicant respectfully submits that (1) independent claim 18 is allowable over the combination of Springer and Wan, and (2) the obviousness-type double patenting rejections based on U.S. Patent Nos. 5,579,799 ("the '799 patent") and 5,560,385 ("the '385 patent") are inappropriate.

As set forth above, claims 18, 20-23 and 28 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over certain claims of U.S. Patent Nos. 6,604,537, 6,209,557, 5,778,915, 5,579,799, 5,560,385 and 6,851,439. Applicant will submit a terminal disclaimer for U.S. Patent Nos. 6,604,537, 6,209,557, 5,778,915 and 6,851,439 after the other substantive rejections have been resolved, thereby rendering moot the obviousness-type double patenting rejections based on U.S. Patent Nos. 6,604,537, 6,209,557, 5,778,915, and 6,851,439.

A. OBVIOUSNESS-TYPE DOUBLE PATENTING BASED ON THE '799 AND '385 PATENTS

1. General Comments

Applicant respectfully traverses the obviousness-type double patenting rejection based on the '799 and '385 patents as follows.

First, page 800-21 of the August 2005 revision of the MPEP states that:

"[a] double patenting rejection of the obviousness-type is 'analogous to [a failure to meet] the obviousness requirement of 35 U.S.C. 103' except that the patent

principally underlying the double patenting rejection is not considered prior art. In re Braithwaite, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination."

As a result, the factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966) should be employed, and "are summarized as follows:

- (A) Determine the scope and content of a patent claim relative to a claim in the application at issue;
- (B) Determine the differences between the scope and content of a patent claim as determined in (A) and the claim in the application at issue;
- (C) Determine the level of ordinary skill in the pertinent art; and
- (D) Evaluate any objective indicia of nonobviousness."

That same page of the MPEP goes on to state that "[a]ny obviousness-type double patenting rejection should make clear:

- (A) The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and
- (B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue

would have been an obvious variation of the invention defined in a claim in the patent."

Finally, page 800-28 of the August 2005 revision of the MPEP states that:

"... a double patenting rejection must rely on a comparison with the claims in an issued ... patent ...".

Applicant respectfully submits that an obviousness-type double patenting rejection of independent claim 18 based on the '799 and '385 patents cannot be sustained if the above-quoted principles are applied. On pages 4-5 of the Final Office Action dated 7/24/06 ("the 7/24/06 Action"), the Examiner points out the **similarities** between claim 18 and the claims of the '799 and '385 patents. However, as pointed out below, the Examiner fails to identify the numerous **differences** between claim 18 and the claims of the '799 and '385 patents (as required by the MPEP). In addition, the Examiner has failed to provide reasons why a person of ordinary skill in the art would conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in the claims of the '799 and '385 patents.

2. The Obviousness-Type Double Patenting Rejection Based on USP 5,579,799 Should be Withdrawn

Following the guidelines outlined in the MPEP, it is necessary to first identify the differences between the inventions defined by claims 1 and 9 of the '799 patent compared to claim 18 of the present application.

In this regard, claims 1 and 9 of the '799 patent recite a collapsible structure having at least **three side panels** that are **connected via adjacent sides** to form an

enclosed interior space. In contrast, claim 18 of the present application only recites **two members (or panels)**.

In addition, claim 18 recites the following limitations that are different from (or not found in) claims 1 and 9 of the '799 patent:

- i. a collapsible structure having a side member **connected at its bottom side to a first side of a base member**;
- ii. **flat members**;
- iii. the base member rests on a surface when the structure is in the deployed configuration; and
- iv. the base member and the side member are connected to each other at an **acute angle**.

Claims 1 and 9 of the '799 patent are silent about flat panels and base panels, and are also silent about any connections at an acute angle. In addition, claim 18 of the present application does not recite the enclosing of any interior space.

Thus, there are numerous differences between claims 1 and 9 of the '799 patent and claim 18 of the present application.

Continuing to apply the guidelines outlined in the MPEP, it is then necessary to explain why a person of ordinary skill in the art would conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claims 1 and 9 of the '799 patent. Here, the person of ordinary skill in the art would need to find it obvious to convert a collapsible structure having at least **three side panels** that are **connected via adjacent sides**, into a structure having (i) a base

member and a side member that are connected to each other at an **acute angle**, and (ii) with the base member resting on a surface when the structure is in the deployed configuration. Applicant respectfully submits that these two contrasting structures are so different that the only way for a person of ordinary skill in the art to conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claims 1 and 9 of the '799 patent would have been through the use of impermissible hindsight reconstruction. The numerous differences (as identified above) make it impossible for a person of ordinary skill in the art to conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claims 1 and 9 of the '799 patent.

3. The Obviousness-Type Double Patenting Rejection Based on USP 5,560,385 Should be Withdrawn

Following the guidelines outlined in the MPEP, it is necessary to first identify the differences between the inventions defined by claim 1 of the '385 patent compared to claim 18 of the present application.

Claim 1 of the '385 patent recites a collapsible structure having at least three side panels that are **connected via adjacent left and right sides**, with each side panel having a **square** configuration, and **each side panel having a bottom side that is adapted to rest on a surface** to support the structure. In contrast, claim 18 of the present application only recites **two** members (or panels) that are not even connected to each other along their left and right sides.

Claim 18 also recites the following limitations that are different from (or not found in) claim 1 of the '385 patent:

- i. a collapsible structure having a side member **connected at its bottom side to a first side of a base member;**
- ii. **flat members;**
- iii. the base member rests on a surface when the structure is in the deployed configuration; and
- iv. the base member and the side member are connected to each other at an **acute angle.**

In addition, claim 18 of the present application does not provide a bottom side for each side panel that rests on a surface to support the structure. Claim 1 of the '385 patent is silent about flat panels and base panels, and is also silent about any connections at an acute angle. In addition, claim 18 of the present application does not recite square panels or members.

Thus, there are numerous differences between claim 1 of the '385 patent and claim 18 of the present application.

Continuing to apply the guidelines outlined in the MPEP, it is then necessary to explain why a person of ordinary skill in the art would conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claim 1 of the '385 patent. Here, the person of ordinary skill in the art would need to find it obvious to convert a collapsible structure having at least three **side panels** that are **connected via adjacent left and right sides**, with each side panel having a

**square** configuration, into a structure having (i) a base member and a side member that are connected to each other at an **acute angle**, and (ii) with the base member resting on a surface when the structure is in the deployed configuration. Applicant respectfully submits that these two contrasting structures are so different that the only way for a person of ordinary skill in the art to conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claim 1 of the '385 patent would have been through the use of impermissible hindsight reconstruction. The numerous differences (as identified above) make it impossible for a person of ordinary skill in the art to conclude that the invention defined in claim 18 would have been an obvious variation of the invention defined in claim 1 of the '385 patent.

#### 4. Response to the Examiner's Arguments

Applicant responds to the Examiner's arguments on page 7 of the 7/24/06 Action as follows:

The Examiner asserts that the claimed structure of claim 18 ("Claimed Structure") can be obtained by re-positioning (i.e., re-orienting) the structures recited in the claims of the '799 and '385 patents. However, the structures recited in the claims of the '799 and '385 patents are so different from the Claimed Structure that even re-orienting or re-positioning them will not yield the same structures. In particular, as pointed out above, the structures recited in the '799 and '385 patents all require at least three side panels (as opposed to two members in the Claimed Structure). Therefore, even if one of the panels in the structures of the '799 and '385 patent are placed on a floor, there will be at least two additional panels. In contrast, the Claimed Structure

would only have one member in addition to the base member. On this basis alone, it is clear that re-positioning the '799 Structure and the '385 Structure will not yield the Claimed Structure.

The Examiner asserts that it is irrelevant that some of the cited reference claims contain additional limitations. However, Applicant disagrees with this contention because these additional limitations clearly evidence the differences between the Claimed Structure and the structures recited in the '799 and '385 patents. As set forth above, the MPEP requires that the "differences between the inventions defined by the conflicting claims" be considered and compared. Thus, the existence of these additional limitations in the claims of the '799 and '385 patents is significant in evidencing the non-obviousness of the Claimed Structure over the structures recited in the '799 and '385 patents.

\* \* \*

Thus, claim 18 of the present application is quite different, and patentably distinct, from the claims of the '799 and '385 patents. Claim 18 of the present application recites a structure that is both different, and patentably distinct, from the structures recited in the claims of the '799 and '385 patents, because the respective structures are based on a different number of basic panels (two versus at least three). There are many other limitations (see (i)-(iv) above) that are present in claim 18 that are not present in the claims of the '799 and '385 patents. There are also many limitations (see above) that are present in the claims of the '799 and '385 patents that are not found in (and which are irrelevant to) claim 18. Thus, Applicant respectfully submits

that it would not be obvious to modify the claims in the '799 and '385 patents to include these limitations.

In light of the above reasons, reversal of the obviousness-type double patenting rejection based on the '799 patent and the '385 patent is respectfully requested.

B. THE ATTEMPTED COMBINATION OF SPRINGER AND WAN WILL NOT YIELD THE CLAIMED INVENTION

The Examiner acknowledges that Springer does not disclose sleeves for retaining the frame members. However, Applicant asserts that Springer also does not disclose a separate piece of fabric for each frame member.

In particular, Springer discloses a single fabric material that covers the bands 32 and 34. Since there are no sleeves in the Springer structure, the fabric material must be draped over the bands 32 and 34. Column 3, line 55 to column 4, line 5 of Springer's specification supports this interpretation. Thus, Springer does not disclose a separate piece of fabric for each frame member.

Applicant acknowledges that Wan discloses the provision of sleeves for its frame members. However, Applicant asserts that the structures in Springer and Wan are based upon such different underlying construction that a person skilled in the art would not find it obvious to modify Springer in the manner suggested by the Examiner.

In particular, Springer wraps a fabric around an enclosed space defined by two bands 32, 34 that are connected by spring connectors 36. In contrast, Wan provides separate panels that are hingedly connected to each other, with each panel having its own fabric and sleeve. Thus, the underlying construction of the Springer and Wan

structures are very different. A person of ordinary skill in this art who begins with Springer would have to make two significant changes to (i) the fabric structure and (ii) the connection. On page 8 of the 7/24/06 Action, the Examiner asserts that these modifications can be made, but does not provide any evidence to support this assertion. However, why would a person skilled in the art want to make these specific modifications (among the many other modifications that are available)? What incentive exists for this skilled person to change these two specific and significant aspects of the construction? Thus, any attempt to combine Springer and Wan would be the result of impermissible hindsight reconstruction.

In a recent case, the Federal Circuit stated that "legal determinations of obviousness ... should be based on evidence rather than on mere speculation or conjecture." Alza Corp. v. Mylan Laboratories Inc., 80 USPQ2d 1000, 1004 (Fed. Cir. 2006). Here, the Examiner's assertions in both the Section 103 and the obviousness-type double patenting rejections are not based on any evidence or well-known facts, but are instead based on speculation and conjecture. The Examiner is essentially saying that it would be obvious to take any previously-known collapsible structure and to re-orient it or change its connections. In this regard, the Examiner has selected a wide variety of different structures in Springer, Wan and the Zheng patents, and has attempted to argue that any of these structures can be re-oriented or modified liberally to reach the claimed invention. Applicant respectfully submits that such a broad-brushed view of the art ignores all the legal principles surrounding obviousness and patentability.

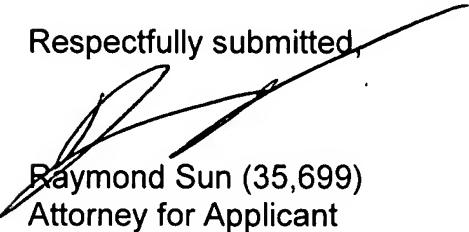
C. THE DEPENDENT CLAIMS ARE ALLOWABLE OVER SPRINGER AND WAN

Claims 20-23 and 28 depend from claim 18, and are allowable for the same reasons set forth above for claim 18.

SUMMARY

For the reasons explained above, Applicant respectfully submits that pending claims 18, 20-23 and 28 are (i) allowable over the purported combination of Springer and Wan, (ii) allowable over the '799 and '385 patents. As a result, Applicant requestfully requests that the Examiner's rejections be reversed.

Respectfully submitted,

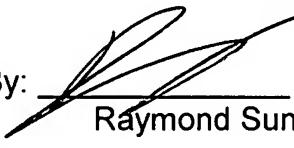
  
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Dated: May 29, 2007

CERTIFICATE OF MAILING

I hereby certify that this paper and its enclosures are being deposited with the United States Postal service as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Date: May 29, 2007

By: 

Raymond Sun



## APPENDIX A (CLAIMS)

1 (Canceled)

2

3 18. A collapsible structure having a deployed configuration and a collapsed  
4 configuration, comprising:

5 a side member and a base member, each member including a foldable frame  
6 member that has a folded and an unfolded orientation, and a separate fabric material  
7 covering at least a portion of its respective frame member when the respective frame  
8 member is in the unfolded orientation, with each frame member forming a plurality of  
9 concentric rings when the frame member is in the folded orientation;

10 the side member having a bottom side, and the base member having a first side,  
11 with the side member and the base member connected to each other adjacent the  
12 bottom side of the side member and the first side of the base member at an acute angle  
13 when the structure is in the deployed configuration;

14 wherein the side member and the base member are flat when the structure is in  
15 the deployed configuration with the base member resting on a surface; and

16 a first frame retaining sleeve for retaining most of the length of the frame  
17 member for the side member, and a second frame retaining sleeve for retaining most of  
18 the length of the frame member for the base member, the frame members for the side  
19 member and the base member being individually retained in different frame retaining  
20 sleeves.

21

1           19. (Canceled).

2

3           20. The structure of claim 18, wherein the side member and the base member  
4           are placed on top of each other when the structure is twisted and folded to its collapsed  
5           configuration.

6

7           21. The structure of claim 18, wherein the bottom side of the side member and  
8           the first side of the base member are hinged with respect to each other.

9

10          22. The structure of claim 18, further including means for interconnecting the  
11          bottom side of the side member and the first side of the base member.

12

13          23. The structure of claim 18, wherein the first frame retaining sleeve is stitched  
14          along the bottom side of the side member to the second frame retaining sleeve along  
15          the first side of the base member to form a hinged connection.

16

17          24-27. (Canceled).

18

19          28. The structure of claim 18, wherein the side member lies in a first  
20          uninterrupted plane and the base member lies in a second uninterrupted plane, with the  
21          first and second planes extending at different angles.

1  
2  
3

EVIDENCE APPENDIX

None

1  
2  
3  
4

RELATED PROCEEDINGS APPENDIX

None